

How long will fodder last –

Fodder is in short supply on farms across the country. A combination of poor spring grass growth and the need to continuously re-house stock over the summer months has left farmers going into the winter with only 70% to 80% of their normal fodder reserves. The latest spell of torrential rain and flooding has added to the problem. In this article, **Justin McCarthy** looks at what steps farmers can take over the coming months to try and make what fodder they have last until spring

The earlier a fodder deficit can be determined on the farm, the better. Don't be tempted to bury your head in the sand and keep feeding the way you always fed, in the hope that things will come good in the spring. Taking small steps now will either help avoid problems or significantly reduce the amount of feed you have to buy come next February or March. For example, reducing the amount of silage you feed a

dry cow by 5kg per day at the start of the housing period will reduce total demand for the winter by the equivalent of one 4x4 round bale. Therefore, if you have 30 cows you have saved 30 bales of silage. Come next spring, these extra 30 bales could save you from having to go out and spend almost €1,000 on additional fodder.

The last position you want to find yourself in come February is needing to go out and buy over priced bales of poor quality silage. Remember, not

very many farmers sell their good bales.

Leaving aside the cost, the increased labour associated with buying in additional fodder is also a major problem. Having to haul bales three or four miles up the road in the month of February, when you are in the throes of calving cows, will inevitably lead to increased mortality.

To avoid finding yourself in this position, you should sit down now and carry out a fodder budget.

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Make changes now to reduce fodder demand



STEP 1: CALCULATE MONTHLY FODDER REQUIREMENT

The first step to carrying out a fodder budget is to identify your demand. It is probably best to do this on a monthly basis, as the length of the winter will vary from farm to farm. *Table 1* shows the monthly requirement for various classes of stock on the farm. These are assumed on a free access basis, e.g. offered ad-lib. Both stores and weanlings are also being offered 2kg of meal per day.

Where you have autumn-calving cows on the farm, remember to include the level of feed consumed by the calf.

As you can see from *Table 1*, a 100kg to 200kg calf will require 0.4/t of pit silage or 100kg of hay per month. Use the information in *Table 1* to

calculate your monthly silage/hay requirement over the winter.



STEP 2: IDENTIFY HOW MUCH FODDER YOU HAVE ON THE FARM

The next step in carrying out a fodder budget is to identify how long the fodder you have on hand will last.

On the majority of farms, the bulk of fodder will have been conserved as grass silage, either in pit form or as 4x4 round bales. *Figure 1* shows the measurements you need to take to calculate the tonnage of silage in a pit.

You simply multiply the length of the pit by the breadth by the average height, taking all your measurements in ft. Then divide the final figure by 45. If the pit contains single chopped silage, then

divide by 50, as the silage will not be as compact. A clamp measuring 60ft long by 30ft wide with an average height of 8ft would contain 320/t ($60 \times 30 \times 8 = 14,400 / 45 = 320$).

ROUND BALE SILAGE

The figures used in *Table 1* one is the amount of pit silage each class of animal will consume over the period of one month. Where grass was wilted prior to baling, the DM content of bale silage could be as high as 30%, compared to just 20% for pit silage. Therefore, where you have bales of wilted silage, you should equate each bale to the equivalent of one tonne of pit silage. Unfortunately, due to the difficult weather conditions throughout May and June, the majority of bales made this year were un-wilted. These are the bales in the yard that have now gone soggy and lost their shape. As they have a higher water content, you should only equate one bale of un-wilted grass to 700kg to 800kg of pit silage. *Table 2* will help you convert baled silage into tonnes of pit silage.

WEIGHT OF HAY

Calculating the amount of hay on the farm is a matter

of counting the number of bales, and then multiplying it by the average weight.

Table 3 gives a breakdown of the weight in various sizes of hay bales. Obviously, some balers will pack more into the bale than others. Therefore, the best way to determine the weight of the bales in the yard is to run a selection over a weighbridge or set them onto the diet feeder.

When you have determined the weight in each bale, then it is simply a matter of multiplying the average weight by the number of bales. For example, a farm with 200 small square bales plus 100 4x4 round bales will have 28/t of hay.



STEP 3: CALCULATE HOW LONG SUPPLIES LAST

In step one, we calculated the monthly fodder requirement for various classes of stock on

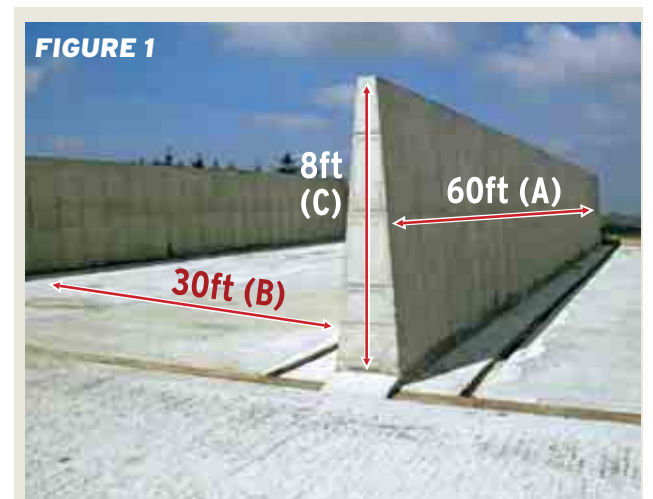


FIGURE 1
To calculate the tonnage of grass silage in the pit, multiply Length (A) x Breadth (B) x Height (C) and divide by 45

Table 2 Converting bale silage into pit silage

	Pit silage
4x4 round bale of silage where the grass was wilted prior to baling (bales are standing up firm and little water runs out when cutting plastic)	Equivalent feed value to 1/t of pit silage
4x4 round bale of silage where the grass was not wilted prior to baling (bales will have lost shape and be difficult to handle. Water will flow from the bale when plastic is cut)	Equivalent feed value to 700-800kg of pit silage.

the farm. In step two, we calculated the amount of fodder that is available on the farm. The final step now is to calculate how long the available fodder will last into the winter and through the spring. This is simply a mat-

ter of dividing the total amount of fodder available by the monthly requirement.

You then use this information to determine if you have enough fodder to last until stock either go back out to grass or are slaughtered.

Table 1 Total fodder consumed per month by various classes of stock (when offered ad-lib)

	Pit silage (t)	Hay (t)
Suckler cow	1.4	0.35
100-200kg calf	0.4	0.1
350kg weanling (plus 2kg of meal per day)	0.9	0.23
500kg store (plus 2kg of meal per day)	1.2	0.3
600kg finishing animal (5kg per meal per day)	1.0	0.25
Ewe	0.17	0.05

*Figures assume stores and weanlings being fed 2kg of meal per day.

Table 3 Weight of various sizes of hay bales

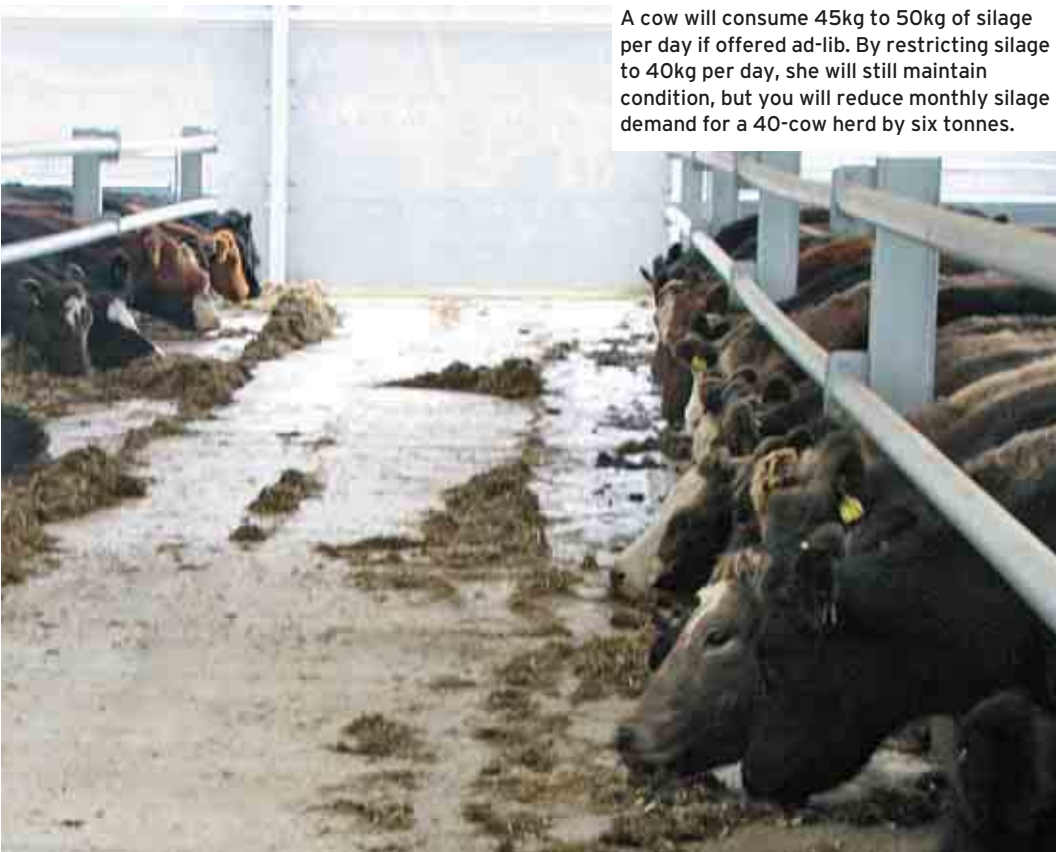
Bale size	kg
Small square bale	20kg
4x4 round bale	240kg
5X4 round bale	360
8X4X3 square bale	570kg

LEFT: *Increasing meal feeding by 1kg per day will reduce monthly silage requirement by 200kg per head across all classes of stock.

Table 4 Calculating monthly fodder requirement (example)

Class of stock	Type of fodder being fed	Monthly requirement per head (t)	No of animals	Monthly requirement per group (t)
Suckler cow	Hay	0.35	40	14
350kg weanling	Silage	0.9	30	27
500kg store	Silage	1.2	100	120
600kg finishing animal (5kg meal per day)	Silage	1.0	50	50
Total amount of fodder required per month			Hay (t)	14
			Silage (t)	197

now is the time to find out



A cow will consume 45kg to 50kg of silage per day if offered ad-lib. By restricting silage to 40kg per day, she will still maintain condition, but you will reduce monthly silage demand for a 40-cow herd by six tonnes.

Barley cheaper than silage

If you have identified a fodder deficit, try to reduce demand instead of rushing out to buy additional fodder. One way to reduce demand without having a negative impact on performance is to introduce additional concentrates. At €160 to €180 per tonne for ration, a round bale of silage is worth €15 to €20. As a rough guide for every additional 1kg of concentrate you introduce per day, you will reduce the silage intake figures detailed in Table 1 by 200kg per month.



By increasing meal feeding levels by 1kg per head per day, you will reduce the monthly fodder demand for cows, stores and weanlings by 200kg.

The suckler cow is the big drain on silage reserves. Fed ad-lib, she will eat from 45kg to 50kg of silage per day. Assuming a price of €20 for a round bale, it will cost €1.50 per day to feed her.

Feeding 30kg of silage plus 2kg of rolled barley (at €150/t) will cost just €1.30 per day. On a 40-cow herd, introducing the 2kg of barley will reduce your silage requirement by a bale per day, and reduce feed costs

by €56 per week. In some herds, where the spring calving cow is housed at condition score of plus 3, silage could be reduced to 30kg per day without any requirement for additional concentrates.

It is also possible to eliminate silage from the diet of the spring calving suckler cow by putting her onto a diet of ad-lib straw plus 2kg

to 3kg of a 16% protein ration. Based on straw at €15 for a 4x4 bale, and a ration price of €180/t, this option will be 15% cheaper than buying silage at €20 per bale.

NOTE: Blank work sheets are available to download at www.farmersjournal.ie on Justin McCarthy's web page.

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Example: Farmer Joe talks us through his fodder budget



STEP 1: WORKED EXAMPLE CALCULATING FODDER DEMAND

Let us assume farmer Joe is wintering 40 suckler cows on hay. He also has 30 weanlings averaging 350kg being fed ad-lib silage, plus 2kg of meal per day. On an out-farm, he has 100 stores that are going back out to grass. They are getting silage along with 2kg of meal per day. Fifty bullocks, averaging 600kg, are in the same yard, and are being fed for slaughter. They are also getting silage

plus 5kg of meal per day. Using the figures in Table 1, it is simply a matter of multiplying the number of animals in each group by the monthly requirement for that class of animal. As you can see in Table 4, Joe will require 14/t of hay per month for the 40 cows and 197/t of pit silage per month for the 100 store bullocks, 50 finishing animals and 30 weanlings.



STEP 2: CALCULATING FODDER AVAILABILITY ON THE FARM

At this stage, farmer Joe now

knows how to calculate the amount of fodder he has on the farm. He heads out into the yard with his note pad to record the number of bales of silage, the dimensions of his two silage pits and the number of bales of hay in the shed. When he returns to the house, he completes Table 5, Table 6 and Table 7.

After completing the tables, Joe calculated that he has 420/t of silage in the pit and the equivalent of 36/t of pit silage in the form of round bales, giving him 456/t of pit silage. By completing Table 7, he has established that he has 49.2/t of hay.



STEP 3: CALCULATING HOW LONG FODDER SUPPLIES WILL LAST WORKED EXAMPLE

At this stage, Joe knows that he requires 14/t of hay per month plus 197/t of pit silage (Table 4). He has also calculated that he has a total of 49.2/t of hay on the farm and 456/t of pit silage.

To calculate how long his fodder is going to last, he divides the available fodder by the monthly demand as shown in Table 8. Right away, Joe can see a major shortfall in the amount of silage he has available on the farm.

Assuming the fodder budget was carried out on the 1 December, Joe has enough silage to keep him going until early February. However, his slaughter date for his beef cattle is early March, and he does not intend to have all store cattle out to grass until

at least mid-March. Therefore, Joe will need to take action if he is to avoid running into a deficit situation.

If he continues to feed the spring calving suckler cows hay ad-lib, he is going to run out in mid-March.

If weather conditions are favourable in the spring, this should be enough to see him through, but if conditions are poor, he will find himself in a position where he will have to buy fodder to bridge the gap to grass.

This is one of the worst positions you can find yourself in as fodder prices tend to be over inflated and quality very poor.

So what action can Joe take to stretch out fodder supplies.

- Move the finishing cattle onto ad-lib meals plus straw.

Would reduce monthly demand by 50/t, but would require the purchase of 12 to 15 8x4x3 bales of wheat straw. At a ration price of €185/t, ad-lib is 18% cheaper per kilo of gain than his current finishing system.

- Increase the meal feeding levels to the store cattle and weanlings by 1kg per day to 3kg per day. This would reduce the monthly silage requirement for the stores by 15% and 20% for the weanlings delivering a saving of 27/t of silage per month.

- Condition score the cows and reduce the level of hay being fed to the fat cows by 20% until condition drops back to 2.5.

- Introduce 1kg of meal to the cows with a body condition score of 2.5 and reduce hay allocation by 10% to 12% or 40kg per month per cow.

Table 5 Calculating the tonnage of pit silage on the farm

	Length (ft)	Breadth (ft)	Height (ft)	Tonnes of silage in the pit	
Pit 1	40	x	20	x	6 ÷ 45 = 100
Pit 2	60	x	30	x	8 ÷ 45 = 320
Pit 3					
Total					420 tonnes

*divide by 50 if single chop

Table 6 Converting bales of silage into pit silage

	No of bales of pit silage	Tonnage of pit silage per bale	Tonnage conserved as bales
4x4 bale of silage (wilted)	20	1	20
4x4 bale of silage (un-wilted)	20	0.8	16
Total (pit silage equivalent)			36 tonnes

Table 7 Calculating the tonnage of hay on the farm

Bale size	No of bales	Average weight per bale (t)	Total (t)
5X4 round bale	0	0.36	0
4X4 round bale	180	0.24	43.2
Small square bale	300	0.02	6
8X4X3 square bale	0	0.57	
Total (t)			49.2

Table 8 Calculating how long fodder supplies will last into the winter

	Tonnage available on farm	Monthly requirement (t)	Months feed available
Pit silage	580	197	2.3
Hay	49.2	14	3.5